

AMENDMENTS TO THE SPECIFICATION**On page 1 of the application, under the title, please insert:****--Cross-Reference to Related Applications**

This application is the national phase of PCT application PCT/US03/19325 having an international filing date of June 18, 2003, which claims the benefit of U.S. Provisional Application No. 60/389,474, filed June 18, 2002. The contents of these documents are incorporated herein by reference.--

On page 1 of the application, please replace paragraph 2 with the following rewritten paragraph:

Recent progress in sequencing technology has generated a vast amount of genomic data. According to the GOLD database, there are more than 300 genomic projects currently completed or under development (~~<http://wit.integratedgenomics.com/GOLD/>~~). Seventy-nine complete or partially complete genomes are available through the public ERGO system (~~<http://igweb.integratedgenomics.com/IGwit/>~~). In order to handle this wealth of information, several powerful bioinformatics systems have been developed. The WIT Project was instituted to develop a framework for the comparative analysis of genomic sequence data, focusing largely on the development of metabolic models for sequenced organisms. The analysis of the genomes involves several distinct, but complementary efforts. The first is a determination of open reading frames (ORFs). The second, often called annotation, is the assignment of functions to genes. The third is the creation of functional models for metabolic and regulatory networks of the sequenced genomes, referred to as reconstruction.

On page 4 of the application, please replace paragraph 8 with the following rewritten paragraph:

A bioinformatics approach called System Reconstruction is used to integrate clinical information with high-throughput molecular data. System Reconstruction technology is described in

co-pending U.S. Provisional Patent Application Ser. No. 60/299,040, and U.S. patent application Ser. No. 10/174,762, ~~10/—,—, (Attorney Docket No. 73876)~~ entitled "System Reconstruction: Integrative Analysis of Biological Data," filed on Jun. 18, 2002, both of which are incorporated herein by reference. In the core of this approach, a collection of human tissue-specific and condition-specific biochemical pathways are linked by common intermediates into maps or models. These models serve as a framework to integrate complementary types of high-throughput data and to establish mechanisms underlying clinical manifestations of diseases.

On page 9 of the application, please replace paragraph 2 with the following rewritten paragraph:

The following examples illustrate pathways in which chitinase is involved. These pathways have been elucidated through the use of the System Reconstruction technology. The technology of System Reconstruction is described in copending U.S. Provisional Patent Application Ser. No. 60/299,040 and U.S. patent application Ser. No. 10/174,762, ~~10/—,—, (Attorney Docket No. 73876)~~ entitled "System Reconstruction: Integrative Analysis of Biological Data," filed on June 18, 2002, both of which are incorporated herein by reference.